September 7, 2004

ELECTRONIC & HAND DELIVERY

Docket No. 03-IEPR-01
Docket Unit, MS-4
California Energy Commission
1516 Ninth Street
Sacramento, CA 95814-5512

Re: Pacific Gas and Electric Company's Response to Questions Regarding the CEC's Renewable Power Draft Staff White Paper

Pacific Gas and Electric Company (PG&E) respectfully submits the following responses related to the CEC's staff draft Renewable Power Report, entitled "Accelerated Renewable Energy Development," a part of the CEC's 2004 Update to the 2003 Integrated Energy Policy Report. The questions we respond to were provided along with the workshop announcement for the August 27, 2004, workshop.

PG&E's enclosed responses are for the questions relating to Chapter 5, "Key Policy Issues for Distributed Generation Photovoltaic Energy Systems." PG&E believes it has adequately addressed the issues pertaining to Central Station Renewables Development in previous workshops.

We appreciate the CEC's inquiry into this important matter and hope our responses have been helpful.

Sincerely,

Original signed by Les Guliasi

Les Guliasi
Director, State Agency Relations

LGG:pmm

Enclosure

PG&E's Response to Selected Workshop Questions
Regarding the 2004 IEPR Accelerated Renewable
Energy Development Report
For Discussion August 27, 2004

Questions on Chapter 5: Key Policy Issues for Distributed Generation Photovoltaic Energy Systems

Summary of PG&E's Position

- PG&E supports solar energy, and in particular, supports a continued incentive program for residential PV. PG&E was actively involved in the recent legislative debates in concerning new programs and mandates to encourage the development of solar homes. PG&E expressed a "support if amended" position on SB 199 (Murray), the administration's Million Solar Homes proposal. It was also actively involved in the discussions of SB 118 (Bowen), an alternative solar home proposal. PG&E welcomes legislation clarifying the source and amount of monetary incentives to be offered for residential solar installations.

- The direct incentive structure proposed in both SB 199 and SB 118 of $2.80 per watt in 2005 declining to zero by 2015 is reasonable.

- However, PG&E has consistently held that any increase in subsidies for solar generation should be preceded by consideration of the relative benefits and costs of this technology from the perspective of ratepayers who cannot take advantage of the subsidies. This important analysis is being conducted by the CPUC in the ongoing DG OIR.

- In particular, such programs need an identified and clear source of funding, and the amount to be spent on such programs should be resolved.

- An increase in the net metering cap is an indirect subsidy that may cost far more than the direct incentives themselves.

- PG&E was delighted to see the statement in the CEC White Paper (at pp. 71-72) that the CEC expects to have a continued PV program next year, with the details to be released by September 1, with funding in place and a revised program available by January 1, 2005. We look forward to seeing the details of this proposal.

5. Performance-Based Incentives

a. What are the advantages of a performance-based incentive relative to a capacity-based incentive? What are the disadvantages?

PG&E believes that there are a number of advantages to paying an incentive on the actual kWh energy production of a PV system, including:

- Provides an added incentive to PV owners to diligently monitor and maintain their systems to operate and perform as intended over time, delivering the benefits to ratepayers that were initially assumed;
- Provides an added incentive to PV owners to shop around for the best value when purchasing a PV system – in terms of installation, price, performance and warranties;
- Provides an additional incentive and assurance that systems installed will remain in place, and not be dismantled, relocated or abandoned (e.g., if the inverter fails after the warranty period and replacement is costly); and
- Rewards "tracker" and other high performance PV systems, which have a higher initial cost, but in return can generate more kWh production.

On the other hand, a performance-based incentive (PBI) would also introduce a number of significant challenges and costs that would have to be addressed and factored in, both from an administrative standpoint (e.g., installing, maintaining, and reading system output metering and then disbursing payments over many years), as well as the fact that the biggest hurdle most customers face in purchasing a PV system is the high initial capital cost, which a rebate revenue stream over many years would not address, unless 1) customers are able to get loans to finance the cost of such systems, or 2) they are able to assign the future incentive payments to the retailer in exchange for a reduction in the upfront cost of the system.

For larger systems, the benefits of PBI probably outweigh the costs. If the pilot test of PBI confirms this, PBI should be considered for larger systems.

b. How long should payments last and how much should be paid?

Should PBI be put in place, the payments should be over a period of five to ten years and at a rate that produces a rebate roughly equivalent on a present value basis to the existing lump-sum rebates.

c. Who should be eligible for incentives: purchasers? Retailers?

System owners should be eligible to receive a performance-based incentive as long as the system is being used to serve on-site load only. System owners should also be able to assign their future incentive payments to a retailer in exchange for a lower initial system cost. Retailers may also want to offer "energy production guarantees" to system owners as a form of an insurance policy that protects system owners from an under-producing system.

d. Should a competitive bidding process be used? How should it be structured?

For larger systems, a competitive bidding process (with a ceiling on the allowed bid), similar to that used in the RPS but based on the $/kWh incentive amount, could serve several useful purposes, including establishing the lowest possible clearing price (subsidy) and maximizing the amount of solar installed in California with the limited dollars available.

e. What program design features should be in place to encourage a decrease in photovoltaic (PV) system costs over time?

The incentive amount offered, whether capacity-based or incentive-based, should decline over time. Also, while reducing the initial costs is important, the program should also include a comprehensive education element to better inform buyers of what to look for and insist upon when purchasing a PV system.

f. Should the current PV incentives be changed to a performance based incentive program? If so, when should the transition occur?

The CEC is currently working on a pilot performance-based incentive program that it plans to offer beginning in 2005. Depending on the experiences of that pilot (including market acceptance and costs to administer), a transition to a performance-based system in 12 to 18 months may be appropriate.

g. Should the incentive structure vary by market segment? Some other factor?

Currently, the CPUC Self-Generation Incentive Program pays as much as 50% more for large photovoltaic installations ($4.50 per watt) than the CEC program for PV projects smaller than 30 kW. Yet, on a per kW basis, the installed cost of bigger projects is usually lower. PG&E has argued at the CPUC that the incentive levels under the SGIP should be no higher

than the incentive level used by the CEC for smaller, more expensive projects.

h. Who should administer performance-based incentive programs?

If adopted, the entity responsible for providing the incentive payment to the customer should administer such programs.

6. PV In New Homes

PG&E welcomes PV in new and existing homes. However, an unlimited amount of subsidies is not in the best interest of the ratepayers of California. PG&E has and will continue to support California's commitment to increased use of renewable power in our power mix. We further have supported and will continue to support PV as one of the choices available to our customers to manage their energy use. However, increased incentives for PV (or any other energy choices) should await the outcome of the current CPUC proceeding that is examining the cost effectiveness of distributed generation programs. Hearings in that docket are scheduled to occur in November, with a report due to the legislature on January 1, 2005. See Public Utilities Code section 2827(n). Pending the outcome of that proceeding, we really don't know whether further subsidies to encourage PV are the best choice for California. If the CPUC proceeding indicates that further encouragement of PV is the optimal choice for California's energy future, PG&E suggests the following:

a. Building on the success of existing PV incentive programs, what are the next steps needed to further encourage PV in new homes?

The biggest barrier to PV in new homes is the high system and installation costs. Adding the cost of a PV system to the already high cost of new housing in California will only exacerbate a situation where fewer and fewer families can afford a new home. Consequently, lowering the cost of PV systems, or lowering the cost of installation will best encourage PV on new homes. Incentives designed for new home developers, mortgage subsidies for new homes with PV, increased line extension allowances for developers who install PV on homes, and increased solar tax credits for new homes could be explored.

The CEC/CPUC/legislature need to resolve issues about funding for existing residential PV incentives. We look forward to seeing the CEC's proposal for next year's incentive soon.

b. How can efforts to further encourage PV in new homes be better coordinated with developing rules for redistributed generation in the RPS?

There are already many incentives for PV (and other renewable DG), all of which are funded by other ratepayers. It is PG&E's position that as a result of this ratepayer investment, at least part of the renewable DG should count toward meeting the RPS, and the CPUC has already indicated that renewable self-generation should count towards the RPS targets. However, the details of how this will work have not been resolved. The CPUC and CEC need to resolve the details of how renewable on-site distributed generation subsidized by the utilities will factor into the RPS calculations. The CPUC has recently called for briefs on some of these questions.

7. Net metering caps: The current cap of one-half of one percent could prevent achieving substantial penetration of PV in new homes. The cap may need to be increased to further the use of PV in new homes. What factors would encourage utilities to go beyond the current net metering cap?

The cap on net metering does not limit in any way the amount of PV that may be installed. Instead, it limits the amount of customers eligible to receive a very expensive subsidy, a subsidy that could cost more than the direct incentives themselves. Net metering, as it is currently structured, results in benefits to owners of PV that may exceed the value of those benefits to the other ratepayers who are paying them. For this reason, the Legislature set the cap when it extended the expanded net metering in AB 58. At that time, the CPUC was instructed to examine the costs and benefits of PV. The CPUC is currently conducting a proceeding that will include a cost benefit analysis of PV and other DG. It is PG&E's position that that key question in the cost benefit analysis is the perspective of the ratepayers who pay for the various incentives received by customers who install on-site generation (including the incentive of net metering). Pending the outcome of that proceeding, there should be no change to the cap imposed by the Legislature. The cap was imposed to protect ratepayers. Premature removal of the cap on net metering could result in incorrect investment by ratepayers.

PG&E could support raising the cap on net-metering if, at a minimum, the following occurs:

1. The CPUC should expand the cap only if it determines that the program would provide net benefits to non-participating customers;

2. The net-metering program for solar and small wind customer generation is brought into alignment with the net metering program

for large wind, biogas digesters, and fuel cells, so that the credit available to new participating customer-generators should be limited to the amount of generation-related costs avoided by the customer-generator; and

3. Any funding for programs to support PV on new homes that result in a volumetric charge to ratepayers apply equally to all residential customer use, including the first 130% of baseline use.